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UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte EDWIN NUN, MARKUS OLES, and ARNE LANG

Appeal 2008-3847
Application 10/506,993
Technology Center 1700

Decided: November 17, 2008

Before BRADLEY R. GARRIS, PETER F. KRATZ, and
MICHAEL P. COLAIANNI, *Administrative Patent Judges*.

GARRIS, *Administrative Patent Judge*.

DECISION ON APPEAL

STATEMENT OF THE CASE

Appellants appeal under 35 U.S.C. § 134 from the Examiner's
decision rejecting claims 11-20. We have jurisdiction under 35 U.S.C. § 6
We AFFIRM-IN-PART.

Appellants claim a molding comprising a surface having surface structures with elevations formed by directly embedding microparticles into the molding.

Representative claims 11, 17, and 20 read as follows:

11. A molding comprising at least one surface having self-cleaning properties and surface structures with elevations formed by directly embedding microparticles into the molding, wherein the molding is produced by:

accreting primary particles to form microparticles,

wherein said microparticles have hydrophobic properties and said microparticles comprise agglomerates or aggregates of from 0.2 to 100 μm , applying the microparticles to the inner surfaces of a mold, molding a molding composition,

wherein the molding composition comprises at least one material comprising organic compounds and said molding composition is in softened or molten form, and

thermally shaping the molding composition in the mold, and

solidifying the molding composition to obtain the molding,

wherein not more than 90% of the diameter of at least 50% of the microparticles are impressed into the surface of the molding which has not yet solidified,

said microparticles are firmly held by the molding to anchor said microparticles into the molding after the molding is solidified,

said molding has elevations formed by the microparticles and

said molding has at least one surface having self-cleaning properties.

17. A molding comprising at least one surface having self-cleaning properties and surface structures with elevations, wherein the molding

comprises at least one material comprising organic compounds and the molding is capable of being in softened or molten form and of being thermally shaped and wherein the surface structures are formed by hydrophobic microparticles embedded directly into the molding.

20. The molding as claimed in claim 17, wherein 10 to 90% of the average particle diameter of the microparticles is within the surface of the molding.

The references set forth below are relied upon by the Examiner as evidence of unpatentability.

Huffer	US 6,783,807	Aug. 31, 2004
Baumann	US 6,800,354	Oct. 5, 2004

Claims 11-14 and 16-19 are rejected under 35 U.S.C. § 102(b) as being anticipated by Huffer.

Claims 15 and 20 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Huffer in view of Baumann.

THE SECTION 102 REJECTION OF CLAIMS 17-19

ISSUE

Have Appellants shown error in the Examiner's finding that claim 17 lacks novelty over Huffer?

FINDINGS OF FACT

On this record, it is undisputed that Huffer discloses a coating for an apparatus comprising a metal-polymer layer which has self-cleaning properties and which contains protuberances (i.e., surface structures with

elevations) created by hydrophobic microparticles embedded within the coating layer (col. 3, l. 50-col. 4, l. 40, col. 6, ll. 1-27).

PRINCIPLES OF LAW

A claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference. *Verdegaal Bros., Inc. v. Union Oil Co.*, 814 F.2d 628, 631 (Fed. Cir.), cert. denied, 484 U.S. 827 (1987).

ANALYSIS

Appellants argue that claim 17 is novel over the Huffer patent because “Huffer et al.’s protuberances are not embedded in the surface of their apparatus parts, nor are these apparatus parts capable of being in softened or molten form or of being thermally shaped” (App. Br. 5). However, the question is whether the claim 17 molding is distinguishable from Huffer’s above described coating, not the underlying apparatus (Ans. Paragraph bridging 4-5). Appellants have provided this record with no argument or evidence which reveals error in Examiner’s finding that the claim 17 coating is anticipated by the coating of Huffer.

CONCLUSION OF LAW

For the above stated reasons, Appellants have not shown error in the Examiner’s findings that independent claim 17 is anticipated by Huffer. Therefore, we sustain the § 102(b) rejection of claim 17 and of not-separately-argued dependent claims 18-19 as being anticipated by Huffer.

THE SECTION 102 REJECTION OF CLAIMS 11-14 AND 16

FINDINGS OF FACT BY THE EXAMINER

According to the Examiner's finding, certain claim 11 phrases including the recitation "wherein not more than 90% of the diameter of at least 50% of the microparticles are impressed into the surface of the molding which has not yet solidified" (claim 11) "are process limitations in product claims and hence are not given any patentable weight since patentability of a product does not depend on its method of production" (Ans. Paragraph bridging 3-4).

ISSUE

Did the Examiner properly find that the above quoted claim 11 recitation is a process limitation which should not be given any patentable weight?

ANALYSIS

The claim 11 recitation may contain process aspects but nevertheless unquestionably defines structural characteristics of the molding product required by claim 11. Specifically, claim 11 requires a molding comprising embedded microparticles "wherein not more than 90% of the diameter of at least 50% of the microparticles are impressed into the surface of the molding". That is, the quoted recitation requires that at least 10% of the diameter of at least 50% of the microparticles extend out from the molding surface (i.e., at least 10% of the microparticle diameter is exposed).

In contrast, the microparticles of Huffer appear to be completely embedded within patentee's coating layer (i.e., none of the particle diameter is exposed), and the Examiner has made no contrary finding in the record of this appeal.

CONCLUSION OF LAW

The Examiner erred in finding that the claim 11 recitation under review is a process limitation which should not be given any patentable weight. As a consequence, we can not sustain the Examiner's § 102 rejection of independent claim 11 or of claims 12-14 and 16 which depend therefrom.

THE SECTION 103 REJECTION OF CLAIMS 15 AND 20

The Examiner acknowledges that Huffer fails to disclose the claim requirement that 10 to 90% of the average particle diameter is within the surface of the molding (Ans. 5). Concerning this claim requirement, the Examiner finds that "Baumann (354) teaches self-cleaning particles on a substrate with a height of 0.5 to 15 μm (col. 5, ll. 13-17) which are anchored (col. 4, ll. 23-27, embedded, thus anchored), forming a layer with thickness of 5-1,000 nm (col. 8, ll. 29-39), which would obviously be anchored by at least 10% of the particle diameter for the purpose of providing a self-cleaning article (col. 2, ll. 66-67)" (*id*; italics deleted). Based on these findings, the Examiner concludes that "it would have been obvious to one having ordinary skill in the art at the time applicant's invention was made to modify Huffer's ('807) structure with a self-cleaning surface wherein the

particles are embedded by at least 10% of their diameter as taught by Baumann (354) in order to provide an article with a self-cleaning surface” (id).

ISSUE

Did the Examiner err in finding that the above noted portions of the Baumann reference disclose an embodiment wherein the particles “would obviously be anchored by at least 10% of the particle diameter” (Ans. 5)?

ANALYSIS

The Examiner’s finding under review (i.e., that Baumann teaches and therefore would have suggested embedding 10 to 90% of the average particle diameter within a molding surface) is based on a comparison of Baumann’s 0.5 to 15 μm particle height teaching at lines 13-17 in column 5 with patentee’s 5-1,000 nm layer thickness teaching at lines 29-39 in column 8. However, the particle height teaching in column 5 can not be properly compared with the layer thickness teaching in column 8. This is because the column 5 particle height teaching relates to a micro rough surface which lies beneath a nanoscale rough surface (col. 5, ll. 7-17). Therefore, the particles in this micro rough surface are over coated by, rather than embedded in the surface of, the nanoscale rough surface. On the other hand, the layer thickness teaching in column 8 relates to a nanostructured coating (col. 8, ll. 29-30) which corresponds to the previously mentioned nanoscale rough surface.

CONCLUSION OF LAW

For these reasons, the Examiner's finding that Baumann would have suggested the 10 to 90% feature of claims 15 and 20 is erroneous. Concomitantly, the Examiner's obviousness conclusion based on this finding likewise is erroneous. The § 103 rejection of claims 15 and 20 as being unpatentable over Huffer in view of Baumann can not be sustained.

ORDER

The decision of the Examiner is Affirmed-In-Part.

No time period for taking any subsequent action in connection with this appeal may be extended under 37 C.F.R. § 1.136(a)(I)(iv).

AFFIRMED-IN-PART

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Application 10/506,993

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